

REMARKS

Claims 1,2,3,4,8,14,15 and 17 have been amended to address, inter alia, various rejections under 35 USC 112. A marked up copy showing all the changes made to Claims 1,2,3,4,8,14,15 and 17 relative to the previous versions of these claims is submitted as ATTACHMENT A.

The Examiner has rejected Clams 1-4,8 and 15 as being indefinite for the reasons listed on pages 2 and 3 of the Office Action. The above amendments are believed to obviate the bases for these rejections. If the Examiner believes some indefiniteness issues remain, he is encouraged to call the undersigned to discuss them.

The Examiner has applied Williams, Detlefsen et al and Fujii as anticipatory references under 35 USC 102. Further, he has applied Cone et al, Gibson et al, Detlefsen et al, Williams, and so called "admitted prior art" to make obviousness rejections. Applicants respectfully traverse these rejections.

Detlefsen et al is alleged to anticipate Claims 1-3. This reference teaches the use of an "accelerated resin" i.e., an accelerator is added to the binder in order to speed up the curing. This can be used in combination with a "slower" glue. Thereby, the layers that are most difficult to cure (in the manufacture of plywood), i.e., the "innermost glueline," are provided with the "accelerated resin," whereas remaining "gluelines" are provided with normal glue.

However Detlefsen et al fails to provide any guidance for adapting the amount of glue to the waiting time, as claimed by

applicants. Furthermore, the Detlefsen et al process appears to be a very complicated procedure for applying different types of glue to different components.

Regarding claim 3, the examiner submits that Detlefsen et al discloses that increasing the amount of accelerator or increasing the ratio between accelerator and glue "decreases the waiting time." However, the "waiting time" referred to by the Examiner is not the same waiting time claimed by applicants. The waiting time of applicants' invention is that between glue application and pressing. For example, articles that are very long, such as construction beams, are subjected to pressure in segments, and accordingly there is a lag or waiting time between the gluing step and the pressing step for the various segments.

This "waiting time" is unrelated to the "curing time" of Detlefsen et al at column 10.

Regarding Claims 4-6, the Examiner submits that Detlefsen et al discloses adjustment of the waiting time between elements. The reference achieves a quicker curing on certain parts by adding an accelerator. In the present invention it is expressly stated that it is the amount of glue that is varied in order to make the waiting time vary.

The Examiner's reference to "admitted prior art" is not completely understood, and is traversed in any event. The Examiner alleges that page 1, lines 15-17 of the specification states that "the waiting time is dependent on glue quantity". This is not what the specification says. The exact quote is "The amount of glue that is applied to each element is calculated based on the waiting time for the element that has the longest waiting time." In other words, the glue quantity is dependent on

the (longest) waiting time of any given element, not the other way around.

As amended, Claim 4 emphasizes that the amount of glue can vary from element to element, depending on the waiting time for a particular element. Clearly, Claims 4-6 are easily distinguished from Detlefsen et al and the so called "admitted prior art".

Applicants traverse the rejection of Claim 7 based on "known and conventional" techniques, and request that the Examiner provide a reference establishing that such techniques are in fact "known and conventional".

The addition of Fujii et al to Detlefsen et al and "admitted prior art" in rejecting claims 8-13 does not cure the above-noted defects in the examiner's obviousness arguments. None of the cited prior art teaches or suggests, inter alia, applicants' step of controlling the amount of glue applied as a function of waiting time.

With respect to the rejections of Claims 14-17, these claims now recite the control unit is programmable such that the applied glue amount varies as a function of a waiting time between glue application and pressing for a given element. None of the cited prior art teaches this feature.

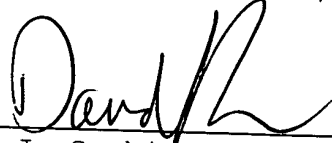
For the above reasons, Claims 1-17 are neither anticipated nor rendered obvious by the cited prior art, and a Notice of Allowance is therefore requested.

The Commissioner is hereby authorized to charge any required fees associated with this communication and during the pendency

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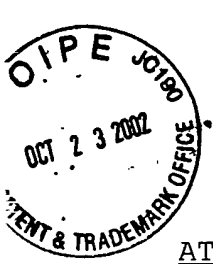
of the application under 37 CFR 1.16 and 37 CFR 1.17 or to credit any overpayment to Deposit Account No. 501348. This sheet is submitted in duplicate.

Respectfully submitted,



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ATTACHMENT A

1. (Amended) A method of manufacturing composite products, wherein a plurality of elements are assembled by gluing them together under pressure, comprising the steps of:

providing a [number] plurality of elements to be assembled;

applying an amount of glue to at least one surface of each said element;

assembling the elements [to the desired structure]; and

subjecting the assembled elements to pressure in a press;

[controlling the amount of at least one component of the glue, applied at a specific point of glue application on an element, to be a function of the waiting time it takes before the point of glue application is subjected to the pressure in the press] wherein a waiting time is defined by a lag between said glue application and pressure application steps; and

wherein said glue application step includes controlling an amount of at least one component of said glue applied to a said element at a specific point thereon as a function of said waiting time.

2. (Amended) The method according to claim 1, wherein the glue [is a multi-component] comprises an adhesive having multiple components, one said adhesive component [of which is] comprising a hardener and wherein the amount of one of said adhesive

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components is controlled so as to control [the] a ratio [between] of said hardener [and remaining] to said other adhesive components [to be] as a function of [the] said waiting time.

3. (Amended) The method according to claim 2, wherein the glue is a two-component adhesive comprising hardener and a glue, the ratio of hardener[:] to glue is controlled to be lower for longer waiting times.

4. The method according to claim 1, wherein the glue is a one-component glue, and the amount of said glue applied to each said element is increased as a function of increased waiting time for each said element.

8. (Amended) The method according to claim 4, wherein the amount of glue applied is controlled by controlling [the speed of] movement of the element(s) during glue application.

14. (Amended) An apparatus for the manufacturing of composite products, wherein a plurality of elements are assembled by gluing them together under pressure, comprising:

an element feeder [(6; 16)];

a glue applicator [(10)];

a stacking unit [(12)];

a control unit [(15)]; and

a press [(17)];

said control unit [(15)] being programmable to run at least one of a control sequence for the glue applicator [(10)and/or] and the element feeder [(6; 16)] to provide an optimal applied glue amount which varies as a function of a waiting time between glue application and pressing for a given element.

15. (Amended) The apparatus as claimed in claim [12] 14, wherein the control sequence is adapted to control the speed of movement of the feeder [(6; 16)], and thereby of the elements through the glue applicator [(10)].

17. (Amended) An apparatus for the controlled application of glue to elements to be assembled to a composite structure, comprising

an element feeder [(6; 16)];  
a glue applicator [(10)]; and  
a control unit [(15)];

said control unit [(15)] being programmable to run at least one of a control sequence for the glue applicator [(10) and/or] and the element feeder [(6, 16)] to provide an optimal applied glue amount which varies as a function of a waiting time between glue application and pressing for a given element.